

PHYSICS (B.S.)

The Bachelor of Science (B.S.) in Physics provides students with a broad-based knowledge and expertise in the laws of physics, the most fundamental natural science. The program provides opportunities for hands-on experience with scientific equipment and essential skills in scientific computing. A physics major provides a wide range of career and research options. Graduates will be prepared for advanced, professional studies in physics, and other scientific disciplines, including engineering and medicine.

Program Progression and Additional Graduation Requirements

For timely degree completion, students must complete all program milestones. The following actions occur when milestones are missed: first occurrence—warning and advising hold; second occurrence—advising hold and counseling regarding progression requirements; and third occurrence—counseling and change to a major outside of the Department of Chemistry and Physics that is more appropriate to student goals and academic performance. Appeals are handled through the relevant department. The decision of the appeal committee is final. Program milestones include the following:

- PHY 2048/L (or PHY 2048C) minimum grade of C completed one calendar year from admission as FTIC or 30 credits earned, whichever is earlier.
- PHY 2049/L (or PHY 2049C) minimum grade of C completed by end of fifth semester (including summers) from admission as FTIC or 60 credits earned, whichever is earlier.
- All of PHY 3101, PHY 3221, and PHY 3323 minimum grade of C completed by end of eighth semester (including summers) from admission as FTIC or 90 credits earned, whichever is earlier.
- PHY 4821L minimum grade of C completed by end of eighth semester (including summers) from admission as FTIC or 90 credits earned, whichever is earlier.

Transfer students may declare the major after they have completed PHY 2048/L (or PHY 2048C), PHY 2049/L (or PHY 2049C), and one of PHY 3101, PHY 3221, or PHY 3323 with grades of C or better in each course. PHY 4821L must be completed with a grade of C or better within one calendar year of declaring the major.

In addition to the program requirements, students must:

- Complete a minimum of 120 credits.
- Complete a minimum of 48 of the 120 credits at the upper division (3000 - 4999 level).
- Earn a cumulative GPA of 2.0 for all coursework attempted at FGCU.
- Satisfy the College-Level Skills and foreign language entrance requirements.
- Satisfy the Service-Learning requirement.
- Satisfy the Civic Literacy requirement.
- Satisfy the residency requirement: 30 of the last 60 credits must be completed at FGCU.
- Complete the summer course enrollment requirement.
- Submit an Application for Graduation by the deadline listed in the FGCU Academic Calendar.

Program Requirements

Code	Title	Credits
FGCU General Education Program (https://www.fgcu.edu/academics/undergraduatestudies/generaleducation/)		
To prevent or minimize excess hours, select general education courses that satisfy common prerequisite requirements for your intended major.		
Common Prerequisites		
For this major, common prerequisite courses with an asterisk (*) require prior knowledge and skills demonstrated through degree acceleration programs (e.g., the College Board's Advanced Placement Program [AP], International Baccalaureate Program [IB], College-Level Examination Program [CLEP], Advanced International Certificate of Education Program [AICE]); dual enrollment; placement exam; or college coursework.		
A minimum grade of C is required in each course		
CHM 1045 & 1045L	General Chemistry I and General Chemistry I Laboratory (Acceptable Substitutes: (CHMX040 and CHMX041) or CHM045C or (CHMX045 and CHMX045L)) ^{*, 1}	4
CHM 1046 & 1046L	General Chemistry II and General Chemistry II Lab (Acceptable Substitutes: (CHMX046 and CHMX046L) or CHMX046C)	4
MAC 2311	Calculus I (Acceptable Substitute: MACX311 or MACX28) ^{*, 2}	4
MAC 2312	Calculus II (Acceptable Substitutes: MACX312 or MAC X282)	4
MAC 2313	Calculus III (Acceptable Substitutes: MACX313 or MAC X283)	4
PHY 2048 & 2048L	General Physics I and General Physics I Laboratory (Acceptable Substitutes: PHYX048C or (PHYX048 and PHYX048L))	4
PHY 2049 & 2049L	General Physics II and General Physics II Laboratory (Acceptable Substitutes: PHYX049C or (PHYX049 and PHYX049L))	4
Required Courses in the Major		(40 credits)
A minimum grade of C is required in each course		
MAP 2302	Differential Equations	3
MAP 3161	Math for Science & Engineering	4
MAS 3105	Linear Algebra	3
PHY 1024	Exploring Majoring in Physics	1
PHY 3101	Intro. to Modern Physics	3
PHY 3221	Intermediate Mechanics	4
PHY 3323	Electricity and Magnetism I	3
PHY 3513	Thermal-Statistical Physics	3
PHY 4151C	Computational Physics	4
PHY 4604	Introduction to Quantum Theory	3
PHY 4821L	Advanced Physics Laboratory	2
PHY 4911	Senior Project in Physics	3
PHY 4949	Senior Capstone in Physics (capstone)	3
PHY 4950	Senior Project Presentation	1

Restricted Electives in the Major (6 credits)

A minimum grade of C is required in each course

Select six credits of the following:

AST 3211	Essentials of Astrophysics	3
PHY 3940	Internship in Physics	1-4
PHY 4905	Directed Independent Study	1-3
PHY 4910	Directed Independent Research	1-3
PHY 4930	Special Topics in Physics	3

Sustainability Course Graduation Requirement (3 credits)

Select at least 3 credits in sustainability coursework (SCGR Attribute)

Additional Electives

As needed to reach total credits required for the degree

¹ Prerequisites of MAT 1033 Intermediate Algebra minimum grade of C then MAC 1105 College Algebra minimum grade of C; or relevant accelerated credit; or placement exam

² Prerequisites of MAT 1033 Intermediate Algebra minimum grade of C then MAC 1105 College Algebra minimum grade of C then MAC 1147 Precalculus minimum grade of C; or relevant accelerated credit; or placement exam

Total Credits Required: 120